Location	Source	Standard
		o Computer Lab o Technology Lab o Material Processing Lab o Auto Shop o Special Education Classrooms o Music Rooms o Drama Rooms o Art Labs o Home And Family Life Labs o Physical Education o Challenge Or AP Programs • Optimum design capacity is 75 students for middle school and 1500 students for high schools. **Minimum levels of service** (Average class size throughout district) • Kindergarten • Regular Education Grades 1-5 • Regular Education Grades 6-8 • Regular Education Grades 9-12 <u>Snohomish School District</u> **Facility Standards for Elementary Schools:** • Class size for grades K-4 will not exceed 23 students. For grades 5-6, class size will not exceed 25 students. • Optimum design capacity for new elementary schools is 550 students. However, actual capacity of individual schools may vary depending on the educational programs offered. **Facility Standards for Secondary Schools** • Class size for grades 7-8 will not exceed 28 students (except PE and Music). • Class size for grades 9-12 will not exceed 30 students (except PE and Music). • Optimum design capacity for new middle schools is 650 students. However, actual capacity of individual schools may vary depending on the educational programs offered. • Optimum design capacity for new high schools is 1,250 students. However, actual capacity of individual schools may vary depending on the educational programs offered.

Fire Protection

Current Regulations

There do not appear to be any City regulations that explicitly deal directly with the relationship between new development and the adequacy of fire protection. One of the approval criteria for a subdivision in Rockville is, "A preliminary plan shall be approved if the Planning Board finds that the proposed subdivision will not: ... overburden existing public services, including but not limited to water, sanitary sewer, public roads, storm drainage and other public improvements." Rockville Code Sec. 25-727(e). This language is repeated a number of times in the Code, applying to different development types and procedures (see discussion at page 16), but there is no reference to fire protection. The APF ordinance should specifically list all facilities for which a regulatory performance review will be made. . Firefighters do rely on the adequacy of the public water system, and the quoted language refers specifically to the water system; that issue is discussed in the chapter on water, beginning at page 45.

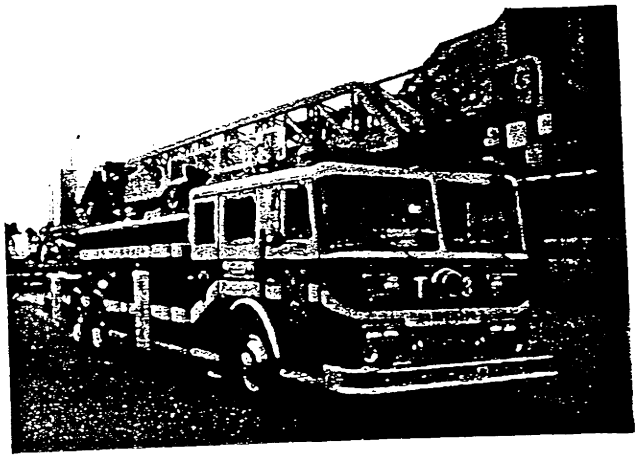
Adopted Policies Related to Adequacy and LOS

In Development Regulations

None, except for general language and specific reference to water supply.

Other

Based on Calendar Year 2001 data, the average structure fire response time was 7 minutes and 25 seconds; the average EMS response time was 5 minutes and 56 seconds (Ierley 2002). This is an acceptable response time (Resnick 2002).



Additional Comments

First response to any location in Rockville is possible within established response times. A full response calls for the availability of engines from at least 3 separate stations to arrive at the location within 10 minutes (Resnick 2002). There are several parts of Rockville that meet the first response standard but that are too distant from second and/or third stations to have confidence that the full response standard can be met; Tower Oaks and Falls Grove are both marginal when measured against the full-response standard. The Department needs a new station near Shady Grove and Darnestown to fill a gap in responses within the incorporated limits of Rockville and nearby areas in the County.

If the City sets a Level of Service based on first response, any proposed development within Rockville should meet that LOS. If the City sets a Level of Service based on full response, developments in a number of areas will not meet that LOS – because several areas of the City would not meet that LOS. Note that the "full response" is essentially a Fire Department planning goal at this time. If the City adopts a full response LOS as a minimum standard based on public safety considerations, there may be potential

liability and other exposure for the City and/or County based on the failure to provide that LOS to property and residents already within the City.

An additional concern in dealing with fire response in Rockville is that the design of some new developments limits access for fire trucks behind and beside some buildings, thus limiting the effectiveness of firefighters once they arrive at the scene. Any attempt to set development standards to ensure efficient response of firefighters should address actual accessibility of the scene.

See also comments under Water Supply.

Recommendations

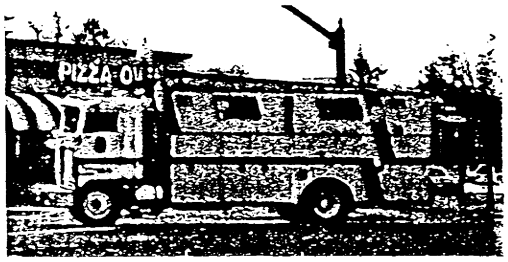
Level of Service

Consider allowing certain higher-risk uses only where a full response from 3 stations within 10 minutes is possible. Such uses would include: schools; hospitals; nursing homes; places of assembly seating more than 500 [or another number]; buildings taller than three (or pick another number) stories. Clearly the public risk issues are much greater in dealing with such uses and there is thus a logical basis to require that an optimal fire or EMS response be available to any such use that is established in the future.

Regulatory Implementation

Regardless of the LOS adopted, it will be possible to generate maps showing the LOS available for any parcel for which development is proposed. This information should be made readily available to developers before they enter the development review process. No project-specific review of LOS should be necessary, although there should be increased attention to emergency access as a factor in site-plan review.

Remaining Issues



In previous discussions of this issue, it was clear that at least some members of Council hoped to adopt an absolute LOS for fire response times or distances for all new development in Rockville. That does not appear to be a realistic goal.

Some communities use a distance from fire station as a design measure of the adequacy of fire protection. Because of the complexity of the road system in Rockville and variations in traffic patterns, a straight distance measurement does not seem useful here – and is not a benchmark used by the Fire Department.

An alternative goal of "no deterioration" in service does not appear to be workable, because Montgomery County Fire Department planners have no basis for predicting to what extent – if any – new development may have an effect on over-all response times. Although the Public Works Department models fire-flows, the Fire Department deals with response times by logging actual response times and computing averages.

Council members have expressed some interest in differentiating response time to a traditional single-family dwelling or small retail complex from the response time to a

residence or office in a high-rise building. The Montgomery County Fire Department **currently has no data to support such a distinction.** Beginning in 2004, EMS personnel will have electronic tablets that will, among other things, track the time of first patient contact. With 18 to 24 months of data from that equipment (data that should be available sometime in 2006), it may be possible to establish a pattern of on-the-scene engagement times (Resnick, 2002); however, professional firefighters have indicated that initial activities at a scene are often so hectic that the likelihood of immediate and accurate logging of each step in the process after arrival is somewhat unlikely.

Comments

The response times discussed throughout this section are **average** response times, just as the Levels of Service used to measure street operations are average figures. Thus, some fire responses will take more than the average. Variables include weather, time-of-day and related traffic conditions, as well as competing calls and demands.

Note that the provision of fire protection in Rockville is institutionally complex. The Rockville Volunteer Fire Department owns existing fire stations and much of the equipment in them. The facilities are staffed jointly by Montgomery County Fire Department and Rockville Volunteer Fire Department, each of which has its own chain of command.

References/Examples

Location	Source	Standard
Washington County, MD		New commercial or industrial development in Urban or Town Growth areas where water service will be available within 2 years must provide interim fire protection systems.
Montgomery County, MD		Service capacity available within 6 years.
Other Maryland Counties		Six counties have standards (as of 1996); Prince George's County: response time, equipment capacity; Anne Arundel: water dist. System; St. Mary's: sprinkler systems. Note that Prince George's County now requires sprinkler systems in single-family dwellings, as well as multi-family, institutional and most other uses.
Palm Beach County, FL	LOS standards: http://www.co.palm-beach.fl.us/pzb/new/planning/comprehensiveplan/firescue.pdf APF standards (general): http://www.co.palm-beach.fl.us/pzb/uldc/content/article11.pdf	Emergency fire and rescue response time (7.5 min.). Does not differentiate between fire/EMS. Criteria for determining need for new fire facility: Major new development; existing service area produces 3 alarms/day; increasing annual trend of alarm activity, travel time; development increasing in areas not having 5 min. travel time; increase in calls from >8 min. travel time areas; annexation.
Moraga, CA	http://www.ci.moraga.ca.us/download/GP%20Docs/10-GROWTH%20-%20final.pdf	There must be a fire station within 1.5 miles of all residential and nonresidential development; police must maintain a three-minute response

<table>
<tr><th>Location</th><th>Source</th><th>Standard</th></tr>
<tr><td></td><td></td><td>time for all life-threatening calls and those involving criminal activity. Seven-minute response time for all non-emergency calls.</td></tr>
<tr><td>Clark County, NV</td><td>http://www.co.clark.nv.us/comprehensive_planning/CompPlanElements/Urban_Fire/Urban_Fire_Chapter2.htm</td><td>
Proposed LOS standards:
As a response to the flashover potential and emergency medical needs, national fire protection standards for urban areas are based on a response time of five minutes or less. This equates to approximately a 1.5 mile response radius from each fire station at the average travel speed of 30 m.p.h. for an engine. The strategic siting of fire stations is based on meeting this response time requirement. The 1.5 mile service radius is referred to in this element as the Fire Protection Service Zone.
Table 5 lists the proposed fire and emergency medical services response standards for urban and suburban Clark County.
Table 5
<table>
<tr><td colspan="3">PROPOSED MINIMUM FIRE PROTECTION RESPONSE STANDARDS CLARK COUNTY</td></tr>
<tr><td>Community District</td><td>Response Time</td><td>Response Radius</td></tr>
<tr><td>CD 1 & 2 - Urban/Suburban</td><td>5 minutes or less</td><td>1.5 mile radius</td></tr>
<tr><td colspan="3">* Except Major Projects which are considered urban/suburban (CD1/2), if service inadequacies are remedied by the development agreement.</td></tr>
</table>
The national average is 1.59 fire personnel per 1000 population (ICMA, 1996). CCFD's existing average is .83 fire personnel per 1,000 population. A proposed standard of 1.13 fire personnel per 1,000 population is the first step and an intermediate goal in order to maintain Clark County Fire Department's ISO 1 Rating and eventually achieve and exceed the national average.
CCFD's existing average for fire service facilities per capita is 235 sq ft per 1,000 population. The national planning standard of 800 to 1,000 square feet per 1,000 population (Colorado Division of Impact Assistance) is much higher than CCFD space requirements and does not accurately reflect the facility needs for fire services in the Valley. A proposed standard of 350 sq. ft. per 1000 population has been determined to provide
</td></tr>
</table>

Location	Source	Standard
		adequate space for future fire service facilities. This recommendation is based on local needs and a comparison of fire services and facilities in the Las Vegas Valley (see Tables 1 and 2, page 9).

Police Protection

Current Regulations

There do not appear to be any City regulations that explicitly deal with the relationship between new development and the adequacy of school facilities. One of the approval criteria for a subdivision in Rockville is, "A preliminary plan shall be approved if the Planning Commission finds that the proposed subdivision will not: ... overburden existing public services, including but not limited to water, sanitary sewer, public roads, storm drainage and other public improvements." Rockville Code Sec. 25-727(e). This language is repeated a number of times in the Code, applying to different development types and procedures (see discussion at page 16). The APF ordinance will be stronger if it includes a specific list of each facility which will be the subject of regulatory determination of adequacy.

Adopted Policies Related to Adequacy and LOS

In Development Regulations

None.

Other

None.

Recommendations

Level of Service

Do not adopt.

Comments

Adequate Public Facilities regulations are typically applied to capital-intensive public services. Police protection is labor-intensive. Although fire-fighting is also labor intensive, the capacity measurements used in APF regulations are based on stations and water supply, both of which represent major capital expenditures. If an area outgrows the capacity of existing fire stations, an additional, substantial capital investment in new facilities becomes necessary. In contrast, expanded duties for the police force typically require additional personnel and additional cars; although automobiles may be considered capital goods in some contexts, police cars are routinely replaced and are, at most, very short-term capital investments.

There is thus no objective basis for establishing the "adequacy" of police services to absorb additional development. Inadequacies can be cured by adding staff and cars

– to the extent that new tax revenues from new development are not adequate to support that level of service, it is a fiscal issue, not a facilities one.

References/Examples

No actual APF programs for police protection were found. Many communities have staffing goals based on population and other factors, but we found no specific capital facility capacity computations. Montgomery County has a goal that the "service capacity" must be available within 6 years of development approval, but it is unclear how that is measured or enforced.

Location	Standard
Montgomery County, MD	Service capacity available within 6 years.

Water Supply

Current Regulations

One of the approval criteria for a subdivision in Rockville is, "A preliminary plan shall be approved if the Planning Commission finds that the proposed subdivision will not: ... overburden existing public services, including but not limited to water, sanitary sewer, public roads, storm drainage and other public improvements." Rockville Code Sec. 25-727(e)

There is similar language governing:

- granting of special exceptions by the Board of Zoning Appeals (Rockville Code Sec. 25-338(2)(b);
- approval of "exploratory application" for planned residential development by the Mayor and Council (Rockville Code Sec. 25-562(5);
- issuance of use permits in the Rockville Pike Corridor Area (Rockville Code Sec. 25-731.10(1)(c);
- approval of "exploratory application" for townhouse development by the Mayor and Council (Rockville Code Sec. 25-625(5);
- approval of a concept plan for comprehensive planned development (Rockville Code Sec. 25-655(5);
- approval by Mayor and Council of a "Preliminary Development Plan Application for development in accordance with the I-3 Optional Method of Development" (Rockville Code Sec. 25-670(4));
- approval of a use permit for development in the Town Center Planning Area (Rockville Code Sec. 25-681(a)(1)c.;
- use of annexed property in accordance with county zoning standards in effect at the time of initial use (Rockville Code Sec. 25-17(a)(2);

A separate section of the Code requires that no building shall be erected without being provided with adequate water supply and plumbing arrangements. This is the effective control in the current system; a building permit will not be issued unless there is capacity available. Rockville Code Section 24-71(a). There is no such limitation at the zoning, subdivision or site-plan review stage.

Adopted Policies Related to Adequacy and LOS

In Development Regulations

The current language (immediately above) is vague, specifying only that new development shall "not overburden" facilities. There is a more strict control at the building permit stage, but that occurs late in the process.

Other

The Montgomery County Fire Department needs 1,500 gallons per minute (gpm) of flow from any hydrant, for at least the first 5 to 10 minutes (Resnick 2002). For a full response, the Fire Department needs a total of 6,000 gpm cumulatively from four hydrants for the first 5 to 10 minutes (Resnick 2002).

Recommendations

Level of Service

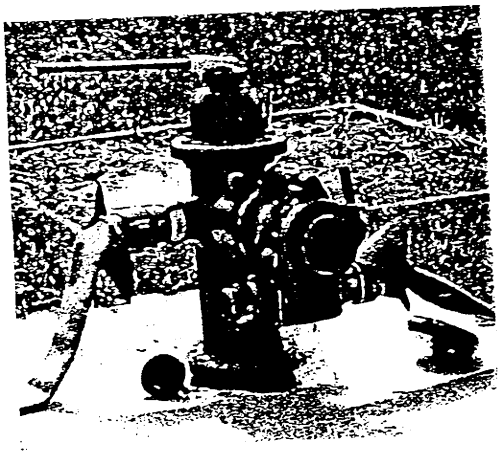
- The APF ordinance should contain an absolute prohibition on the approval of any development which would create total water demand in the City that would exceed available supply less a reasonable reserve for fire-flow. This would basically be a backup standard, as it seems unlikely that any development will actually create so much demand that the City's demand will approach available supply.
- The City may wish to consider including a limitation that would prohibit approval of a development for which a minimum (specified) fire-flow will not be available from hydrants located within ___ feet of _____ within the development. Such a standard might be applied to all developments or only to institutional and other uses that place large numbers of people in a single building. But see discussion below.

Regulatory Implementation

Water supply issues are City-wide issues. Available supply and factors to determine the population that can be served (with appropriate allowance for industrial, municipal and other non-residential uses) should be published and made readily available to developers. The only project specific review that should be necessary would be a computation of projected demand and comparison of that figure to long-term available supply. If demand in the City begins to approach supply, the City may want to consider a "Capacity Allocation" program, through which it divides the available supply into various groups and sets priorities for allocation within those groups.

Remaining Issues

Some members of Mayor and Council have expressed concern regarding the long-term availability of water allocated from the Potomac River, particularly in light of the recent drought. Current analysis by Public Works and other city staff suggest that there are no significant constraints on the ability of the City to meet total treated water needs of current and foreseeable demand. From May 1, 2002, through May 1, 2014, Rockville has a water allocation from the Potomac equal to an average of 7.1 million gallons per day, with a maximum daily withdrawal of 12.1 million gallons. The limits before May 1, 2002, were an average of 5.5 million gpd and a maximum draw of 8 million



gallons in one day. (Woo 2003). The question that remains is whether the Mayor and Council wants to bring in experts to conduct a risk analysis of future possible restrictions on draws from the Potomac and to adjust the computation of "available" water through the use of that risk analysis. Such an approach is relatively common in the Western states, where the priority system of water rights provides a hierarchical context for the assessment of risks; it is somewhat more unusual in a riparian rights state, like Maryland.

Comments

Maryland is a relatively wet state and Montgomery County touches or includes several water sources. There have to date been no technical or formal indications of a shortage of treated water to meet the needs of Rockville residents and businesses.

The only immediate water issue that appears to exist is the lack of delivery capacity to generate minimum fire flows (1500 gpm from 4 separate hydrants) at some locations in the City. According to Public Works, "there are very few hydrants (areas in the City) that do not meet this criterion." (Hollida 2003). It is thus not entirely clear whether the City needs to adopt such a standard. The priority should be on curing any existing deficiencies, which apparently exist only in a small number of locations in older part of the city. There seems to be little concern by Public Works staff about the ability of the City to meet this standard in newly developing areas built to City standards.

References/Examples

Location	Standard
Washington County, MD	System must be adequate to accommodate development. Developer may provide necessary improvements.
Montgomery County, MD	Service available within 2 years.
Harford County, MD	System must be adequate to accommodate development or be funded by county or developer.
Frederick County, MD	System must be adequate to accommodate development or be funded in first 3 years of CIP.
Baltimore County, MD	System must be adequate to accommodate development or be funded in first 3 years of CIP.

Sewer Service

Current Regulations

One of the approval criteria for a subdivision in Rockville is, "A preliminary plan shall be approved if the Planning Commission finds that the proposed subdivision will not: ... overburden existing public services, including but not limited to water, sanitary sewer, public roads, storm drainage and other public improvements." Rockville Code Sec. 25-727(e)

There is similar language governing:

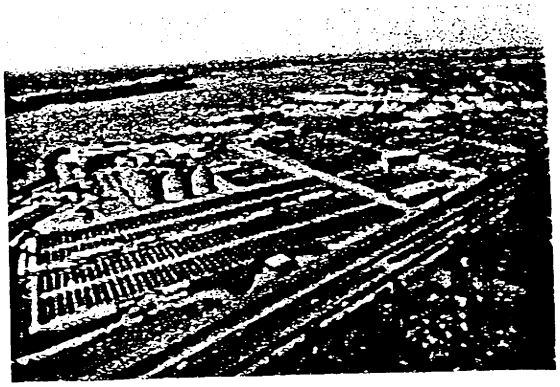
- granting of special exceptions by the Board of Zoning Appeals (Rockville Code Sec. 25-338(2)(b);
- approval of "exploratory application" for planned residential development by the Mayor and Council (Rockville Code Sec. 25-562(5);
- issuance of use permits in the Rockville Pike Corridor Area (Rockville Code Sec. 25-731.10(1)(c);
- approval of "exploratory application" for townhouse development by the Mayor and Council (Rockville Code Sec. 25-625(5);
- approval of a concept plan for comprehensive planned development (Rockville Code Sec. 25-655(5);
- approval by Mayor and Council of a "Preliminary Development Plan Application for development in accordance with the I-3 Optional Method of Development" (Rockville Code Sec. 25-670(4);
- approval of a use permit for development in the Town Center Planning Area (Rockville Code Sec. 25-681(a)(1)c.;
- use of annexed property in accordance with county zoning standards in effect at the time of initial use (Rockville Code Sec. 25-17(a)(2));

A separate section requires that no building shall be erected without being provided with adequate water supply and plumbing arrangements. This is the effective control in the current system; a building permit will not issue unless there is capacity available. Rockville Code Section 24-71(a). There is no such prohibition at the zoning, subdivision or site-plan review stage.

Adopted Policies Related to Adequacy and LOS

In Development Regulations

The current language (immediately above) is vague, specifying only that new development shall "not overburden" facilities. There is a



more strict control at the building permit stage, but that occurs late in the process.

Other

Collection is provided by Washington Suburban Sanitary Commission (WSSC) and treatment is provided by the District of Columbia Water and Sewer Authority at the Blue Plains Treatment Plant; that plant takes 169 million gallons of sewage per day from the WSSC and does so under a cost-sharing agreement with WSSC. Public Works staff indicates that there is no capacity problem there now or in the foreseeable future.

There are real, identifiable capacity problems in transmitting wastewater to Blue Plains. At the current time, there is adequate capacity in the Watts Branch to serve all reasonably anticipated development; there are capacity limitations in the Rock Creek transmission system, in part based on agreements for its use. There are also physical limitations on the Cabin John basin; the City and WSSC are jointly working on upgrades to the transmission capacity in this watershed. WSSC is planning a major upgrade in the Rock Creek basin, in which the city will purchase specific capacity.

There are some indications that actual capacity of the various transmission systems exceeds the design capacity. At this time, WSSC allows connections based on actual capacity. If the WSSC were to amend its policies to compute capacity based on design capacity, there could be capacity problems in some geographic areas.

Recommendations

Level of Service

- The APF ordinance should contain an absolute prohibition on the approval of any development which would cause the City to exceed the capacity available to it at the Blue Plains Treatment Plant or other facilities provided by WSSC.
- The APF ordinance should prohibit approval of a development for which transmission capacity in the WSSC system to Blue Plains or another treatment facility will not be available concurrently with the anticipated demand.

Regulatory Implementation

Capacity issues appear to be basin-wide. Capacity data should be published for each basin and updated annually. The only development-specific review that will be necessary will be computation of projected demand, to be measured against available basin capacity. This should occur on a tentative basis in a review of a zoning or use permit, and capacity should be reserved through a process tied to subdivision platting and/or site-plan review.

Remaining Issues

None.

Comments

This is not an optional policy. It is a matter governed by the State of Maryland under authority of the Environmental Protection Agency, acting under the Clean Water Act.

Substantial fines and penalties can be applied to local governments – and even public officials – responsible for allowing overloads on a wastewater treatment system. The Washington Suburban Sanitary Commission would undoubtedly take legal action to prevent such a situation from occurring.

Thus, the only real change to be triggered by this policy would be to ensure that review of the adequacy of wastewater treatment and collection capacity would occur relatively early in the development approval process.

Note that the proposed policy related to the treatment plant will have virtually no effect barring a natural disaster or some other unforeseen set of circumstances. However, it is an entirely defensible provision based on public health concerns and should be included as a matter of good public policy and internal consistency.

Public Works staff views any provision dealing with capacity of the transmission system to affect timing and not ultimate development; they anticipate that planned expansions will provide adequate capacity to meet foreseeable demand, at least over the mid-range.

References/Examples

Location	Standard
Washington County, MD	System must be adequate to accommodate development. Developer may provide necessary improvements.
Montgomery County, MD	Service available within 2 years.
Harford County, MD	System must be adequate to accommodate development or be funded by county or developer.
Frederick County, MD	System must be adequate to accommodate development or be funded in first 3 years of CIP.
Baltimore County, MD	System must be adequate to accommodate development or be funded in first 3 years of CIP.
Anne Arundel County, MD	System, including funded construction, must be able to accommodate all existing and projected development.

Sources

Annual Growth Policy (AGP), 2002 (Montgomery County National Capital Park and Planning Commission).

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Introduction

Relationship of APFO to the Master Plan:

The City's Master Plan provides a vision for a transportation system that is adequate to accommodate anticipated local and regional demands. Through stated goals and objectives, it aims to create a system that is accessible and provides mobility for all users. All new developments or redevelopment projects in the City are subject to review of congestion, safety, and multi-modal access, and how they support the Master Plan vision.

While the Master Plan guides development, implementation rests in Neighborhood Plans, zoning, private developers, and multiple levels of government. It is at the Master Plan stage that functional characteristics such as street classifications and design standards are put in context of surrounding land uses. Once Neighborhood Plans are approved, the Adequate Public Facilities Ordinance (APFO) will set standards for development projects so that they provide "adequate" levels of service for all modes of transportation. Further, the APFO will reference materials that provide quantifiable measures for levels of service, such as the Comprehensive Transportation Review (CTR) and Transportation Demand Management (TDM)Policy.

Typical level of service measures focus on automobile traffic. To address alternate modes of transportation, the APFO and CTR will also be focusing on transit, pedestrian, and bicycle levels of service. To ensure that development is encouraged where there are viable strong multi-modal options, Rockville will be identifying Transit-Oriented areas (TOA), and non Transit-Oriented areas within the City. The proposed TOAs will include areas 7/10ths of a mile accessible walking distance from existing and programmed Metro stations and programmed transit stations on dedicated transit rights-of-way. In addition, these TOAs may also include access roads to these areas.

A primary purpose of the transportation section of the Master Plan is to outline strategic investments in facilities and services that are necessary to meet expected future needs, and to identify deficiencies and operational and technological changes in the existing network that will serve future land use.

MULTI-MODAL APPROACH

The goals and objectives for development and redevelopment projects in the City aim to provide citizens, employees, and visitors with multiple options for accessibility and mobility. To ensure that these goals and objectives are met, the transportation network must take into account the positive and negative impacts from all modes of movement including auto, transit, pedestrian, and bicycle. Providing multiple options to the transportation system users will help mitigate congestion, enhance safety, and reduce reliance on the single occupancy vehicle (SOV).

In addition to on-site multi-modal assessment, an off-site study area will be established for each of the modes. The goal of the off-site analysis is to ensure that the site can be accessed safely and efficiently and there are adequate transportation facilities in place to support the subject development. As with auto trips, the CTR will be not only assessing on-site circulation and access, but also off-site issues for all modes of transportation.

Auto

The private automobile is the dominant mode of transportation in Rockville. The proposed CTR will assess the impacts of private automobiles on the roadway system along with other modes. The higher the mobility of autos, the less safe, and therefore accessible, that an area is for pedestrians and bicyclists. A balanced transportation system would allow for a reasonable reduction in the mobility of autos to enhance safety and attractiveness of the area to pedestrians and bicyclists. An example of this is an intersection operating at a Level of Service "D" that is located on a cross-section of arterial and residential streets; while vehicular mobility is not somewhat limited, accessibility and safety of pedestrians due to reduced vehicle speeds is acceptable.

As part of the CTR, applicants will prepare studies to assess levels of service (LOS) for intersections. Below is general guidance on defining the study area for autos, based on the number of vehicular trips generated by the proposed development as outlined below:

Minimum number of intersections surrounding site to be included in traffic study, to be determined by staff based on site location and evaluation of intersections potentially impacted by the development:

Maximum peak-hour site trips		Total number of intersections[1]
50-150		4
151-350		8
351-700		12
700+		16

[1] May be increased where significant impacts are identified.

Transit
The location of transit stations (rail or bus) must provide users the ability to access other modes. Individuals should be able to walk from the transit station location to activity centers: i.e.offices, retail, entertainment or residential units. Parking spaces for commuters who use autos or bicycles should also be within walking distance to transit stations. These locations, as well as transfer points and terminals must also be comfortable and safe.

As part of the CTR, applicants will prepare studies to assess access to the site by transit, condition of transit facilities including, bus shelters, real time transit information and other elements. The study area for transit will be determined by staff based the pedestrian study area as outlined below:

Pedestrian
Connectivity to transit and bicycle facilities is critical for an effective, efficient pedestrian network. Sidewalk systems that are contiguous and grid-like allow pedestrian traffic easier access to activity centers and transit-oriented areas. Safety measures such as traffic calming and enhanced intersections provide higher levels of service, and are thus more attractive to system users.

As part of the CTR, applicants will prepare studies to assess connectivity of the sidewalk system, adequacy and safety of sidewalks and pedestrian crossings, ramp facilities, compliance with the Pedestrian Policy as well as other pedestrian features. The minimum study area for pedestrian facilities will be determined by staff based on the number of peak hour trips from the subject development as outlined below:

Peak-hour site trips	Radius in miles
0-500	.25
500+	.50
700+	.75 mile and an evaluation of access to Metro

Bicycle
Bicycle levels of service are based primarily on the levels of comfort that riders feel on designated facilities. Shared roadways with high volumes of traffic moving at rapid speed are not as attractive as, for example, bike paths. Increased comfort levels can be achieved by providing a mix of facilities in combination with a contiguous system. That system must link with other networks, such as pedestrian sidewalks and routes to activity centers and transit-oriented areas.

As part of the CTR, applicatns will prepare studiesl to assess connectivity of the bikeway system as defined in the Rockville Bikeway Master Plan, adequacy and safety of bike facilities and intersection crossings as well as other bikeway features. The minimum study area for bike facilities will be determined by staff based on the size of the subject development as outlined below:

Peak-hour site trips	Radius in miles
0-500	.5
500+	1

Summary

The underlying principle in the Master Plan goals and objectives is to provide a system that provides choice. The mechanisms to measure, implement, and enforce them (eg. Neighborhood Plans, the Adequate Public Facilities Ordinance, Transportation Demand Management Policy and Comprehensive Transportation Review) must provide a reasonable balance in facilities without favoring one mode at the expense of others. Changes in street routing, traffic controls, parking regulations, revised transit routes, physical changes to streets, enhanced pedestrian and bicycle circulation routes are some of the mechanisms to ensuring a system that is inter-connected and multi-modal. The levels of service that make these possible in the City are discussed in detail in Forms A, B, and C below.

Comprehensive Transportation Review Process:

The Comprehensive Transportation Review (CTR) is an integral tool in evaluating the adequacy of the overall transportation system in Rockville and adjacent to the subject development site. Consequently, the CTR is fundamentally linked to the Adequate Public Facilities Ordinance (APFO) and the development review process. The flowchart in attachment X illustrates the CTR process that is described below.

Initial Screening: The CTR is a sub-set of the development review process. Once an inquiry for a development application is received in the Planning Division, the applicant will be given screening forms and guidelines for completing the CTR. Before submitting the completed development application to the Planning Division, the applicant may meet with the Development Review Committee (DRC) to discuss the details of the development project. In Addition, all applicants are required to meet with transportation staff for a project scoping meeting to determine which reports (A,B,C) which will need to accompany the development application.

Thresholds: All development applications that will generate more than 50 site trips, during the AM or PM peak hours or Saturday Midday peak in the Rockville Pike Corridor, whichever is greater, using the trip generation rates referenced in the CTR, must submit all three reports outlined in the CTR as described below. In the case where a development project would not attract or produce more than 50 site trips, only Reports B and C must be submitted.

Reports:

- Report A: Traffic analysis including technical guidelines for conducting a TransportationTraffic Impact Study.
- Report B: Analysis of access to alternative modes of transportation available in impact area, including pedestrian, bicycle, and transit facilities.
- Report C: On-site analysis which will examine internal circulation, entrance configurations, truck access and other relevant features

Staff Review and Recommendation: Applicants are encouraged to meetwith the Traffic and Transportation Division for an evaluation of the information provided in the screening forms for Reports A (if applicable) and B. The complete application should be submitted to the Planning Division. All applicants must submit Report C to the Traffic and Transportation Division.

The Traffic and Transportation Division will review all submitted reports and produce a comprehensive Transportation staff report that addresses any comments on the development application and conditions for approval. In the event that the Traffic and Transportation Division does not accept a report, the applicant will have to resubmit the report for consideration. The Transportation staff report is included in the overall staff report which is evaluated by the approving body.

Credit System:

If LOS standards are exceeded as defined in the CTR, mitigation must be implemented to reduce congestion to an acceptable LOS, in order for the development to be approved. Trip credits may be applied against trip generation for pedestrian, bike, transit, transportation demand management programs and other transportation improvements for proposed new developments; differential credit will be applied accordingly, depending on whether or not the development is within a transit-oriented area.

The City is creating a credit system based, in part, on the credit system in place by Montgomery County for off-site sidewalks and bike paths, bus shelters, bike lockers and real-time transit information. As data is collected, the credit system will be updated and expanded to be included as part of the CTR.

If an intersection is projected to operate at an unacceptable LOS as defined in the APFO and the CTR due to a proposed development, multi-modal facilities may be constructed to offset their impact including; bike facilities, sidewalks, bus shelters, bike lockers and carpool spaces. The developer will be credited auto trips according to the table in the CTR for these non-roadway improvements in order to mitigate their impact and bring their impact level below the threshold allowed under the APFO and the CTR.

The following credits may be applied to site development applications:

TDM: The City's proposed Transportation Demand Management Program looks at trip reduction and demand management throughout planning areas and throughout Rockville. TDM strategies typically focus on programs and marketing to reduce single occupancy vehicle trips. Some of these programs are outlined in Appendix XX, and the TDM policy can be found in Attachment XX. When a development applicant in a non-TOA implements a TDM Program, a maximum of 10% credit may be applied to the overall auto trip generation for the development site. Development in TOAs may be eligible for up to 15% credit to be applied to the overall auto trip generation for the development site.

Total auto trip generation should be used for the traffic study total trips analysis, and any credits or improvements should be applied after the total traffic analysis is complete.

Multi-modal infrastructure: If an intersection within the applicant's vehicle study area does not meet the standards of the APFO or the CTR, or is otherwise adversely impacted, an applicant may provide multi-modal infrastructure improvements to the intersection and receive credit for the improvement/modification of the intersection according to the credit table in Appendix X to be applied directly to the failing intersection.

Modification Credit: If an intersection is projected to operate at an unacceptable LOS and the proposed development impacts the intersection as defined in the APFO and CTR, multi-modal facilities may be constructed to offset their impact including; bike facilities, sidewalks, bus shelters, bike lockers and carpool spaces. The developer will be credited auto trips according to the table in the CTR for these non-roadway improvements to their

overall auto trip generation in order to mitigate their impact and bring their impact level below the threshold allowed under the APFO and the CTR.

The developer would be credited trips for these non-roadway capacity improvements according to attachment X.

Trip credits may be applied to reduce site auto trip generation for pedestrian, bike, transit, transportation demand management programs and other transportation improvements for proposed new developments in Rockville. Differential credit will be applied accordingly, depending on whether or not the development is within a transit-oriented area.

Applicants are encouraged to reduce transportation impacts by providing multi-modal improvements and modifications to the transportation system. The maximum number of credits is 50% of total trips in a TOD area and 25% of total trips in a non-TOD area. Credits will be applied for all facilities or programs in Attachment X, or facilities or programs approved by the Department of Public Works/Planning Department. Credits will applied according to the table in Attachment X, recognizing that certain facilities and programs are more effective in trip reduction than others.

Where intersections fail, the City may require one of the following:

- Implementation of physical modifications where such modifications to increase vehicular capacity would bring LOS to acceptable levels.

- Where physical modifications are not desired by the City because of adverse impacts on other modes of transportation, a monetary contribution equivalent to the physical modification may be used towards multi-modal projects or programs in transit-oriented areas.

- In non-transit oriented areas where multi-modal transportation options are less prevalent, the contribution amount required may be twice the equivalent of the physical modification.

Adequate Transportation Facilities for the City of Rockville

Presentation to the Mayor & Council

Department of Public Works
Traffic & Transportation Division
May 20, 2003

Mayor & Council Goals Related to the Transportation Section of the APFO

- Create a Vibrant Town Center
- Improve Mobility
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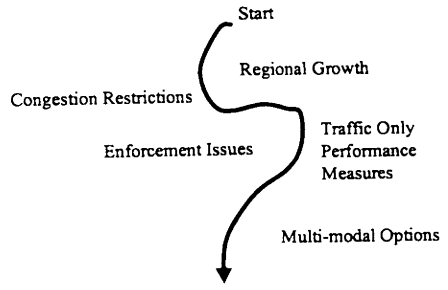
Obstacles in Creating Transportation Section of APFO

- Conflicting Goals
- Failing Traffic Conditions Today
- Limited Opportunities for Roadway Capacity Improvements

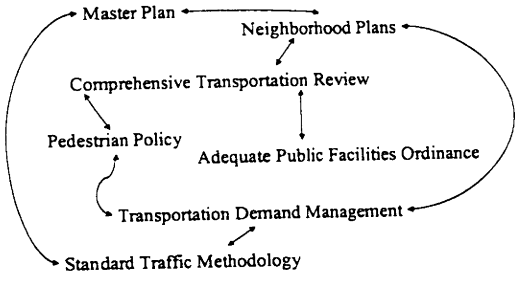
A Path Not Well Traveled



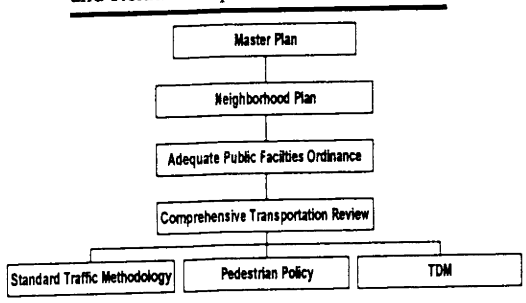
No APFOs Exist That Meet Our Needs

- Focus growth in areas with transportation options
- Examine options when intersection widening impact pedestrian and transit accessibility
- Look at a "hub and spoke" system of activity centers

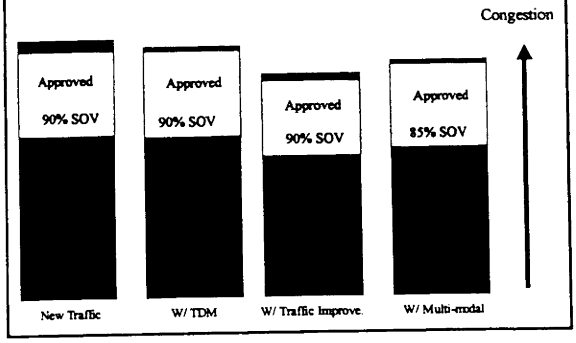
Planning Components



Planning Components in Rockville
and Relationship of APFO to Master Plan



Example Traffic Mitigation at Impacted Intersection in TOA



Consensus Points:

? Prioritize growth where there are:
- ➢Transportation options
- ➢Pedestrian friendly urban design
- ➢Mixed land uses
- ➢Public open space

? Desire to create vibrant town center

Recommendation 1:

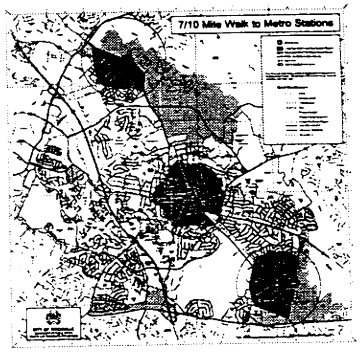
Establish Transit-Oriented Areas (TOAs)

Prioritize growth where there are:
- Transportation options
- Pedestrian friendly urban design
- Mixed land uses
- Public open space

Defining Transit Oriented Areas

[illegible]	[illegible]
Established by Mayor & Council	Established by Mayor & Council
Concentrated Development	Less Concentrated Development
Many Viable Alternatives to Auto	Few Viable Alternatives to Auto
7/10ths Mile Access from Existing and Programmed Metro, Transit Stations on Dedicated Rights-of-Way	

Transit-Oriented Areas



- 7/10ths mile from Fixed Transit Right of Way

Consensus Points:

? The transportation system can absorb more congestion if viable transportation options exist

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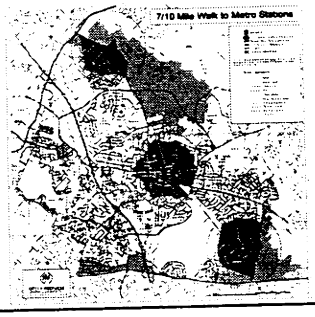
? Should roadway corridors serving these areas should be treated in the same manner?

Recommendation 2:

a. Identify Different Congestion Thresholds
b. Multi-Modal Facility Improvements



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Consensus Points:

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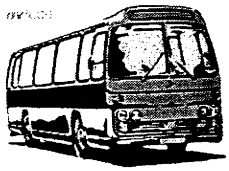
? Greater credit applied in TOAs

Recommendation 3:

Credit for Multi-Modal Transportation Improvements



Sample Multi-Modal Facilities & Programs

Mode	Facilities / Programs
Auto	Parking Charges Park & Ride Lots
Bike	Bicycle Paths Bicycle Racks
Transit	Transit Subsidies Town Center Shuttle
Pedestrian	Sidewalk Connections Sidewalks 20' Wide for Shared Modes

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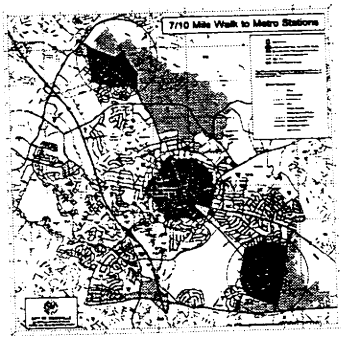

- Greater Credits Applied to TOAs

Credits

Greater Credits will be Applied to Development in Transit-Oriented Areas

- Multi-Modal Infrastructure
  - Credit Applied Directly to Intersection
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- Transportation Demand Management
  - Development in TOAs will Receive Greater Credit for TDM Programs

Maximized Credits

Maximum Credit Ceilings will be Established to Create a Realistic Credit System and Avoid a "Pay and Go" System.

Recommendation 4:

Time Limit on Approved Applications

Recommendations

- Establish Transit-Oriented and Non Transit-Oriented Areas
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- Credit for Multi-Modal Traffic Improvements
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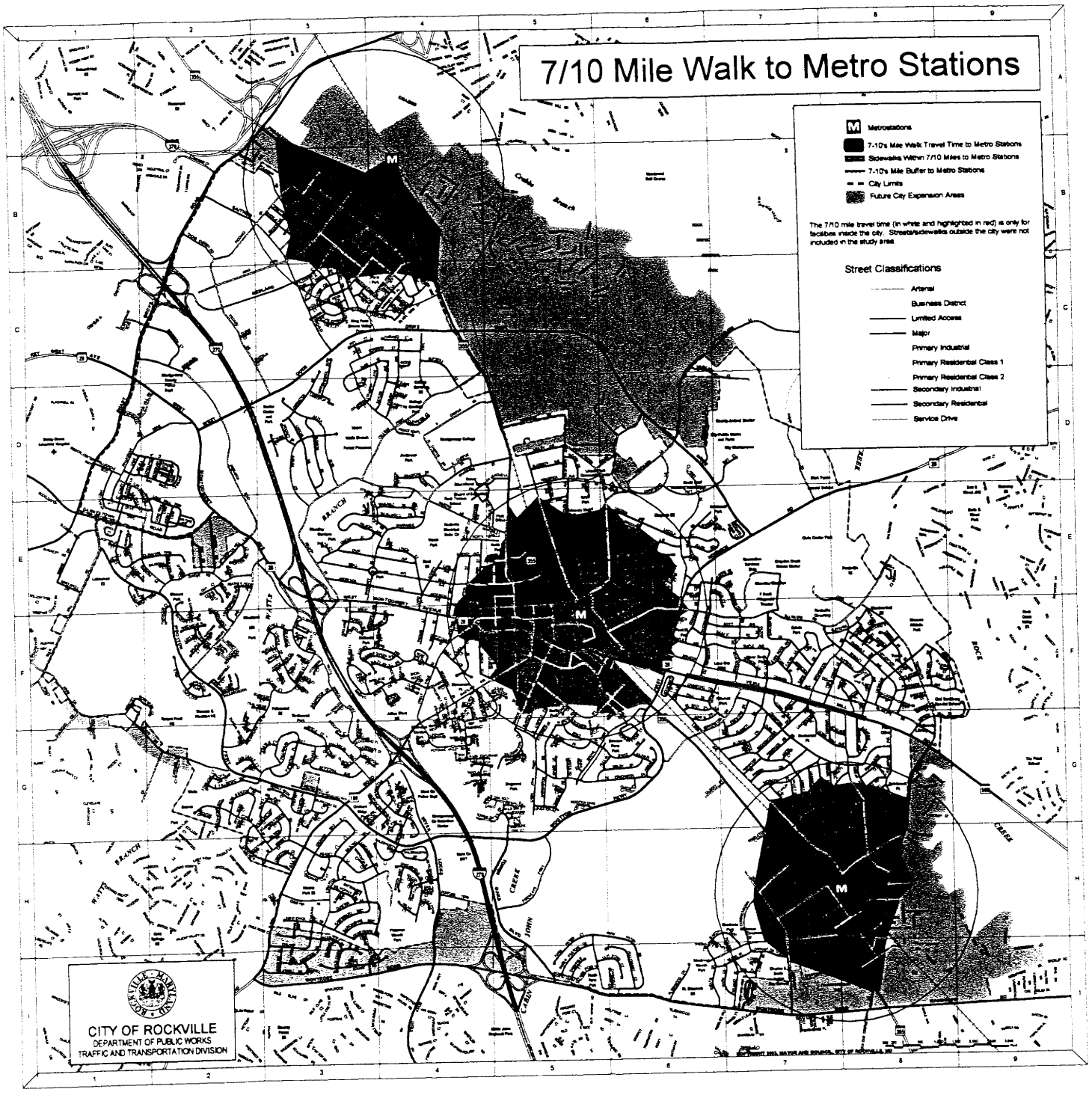
7/10 Mile Walk to Metro Stations
Metrostations
7-10's Mile Walk Travel Time to Metro Stations
Sidewalks Within 7/10 Miles to Metro Stations
7-10's Mile Buffer to Metro Stations
City Limits
Future City Expansion Areas
The 7/10 mile travel time (in white and highlighted in red) is only for facilities inside the city. Streets/sidewalks outside the city were not included in the study area
Street Classifications
Arterial
Business District
Limited Access
Major
Primary Industrial
Primary Residential Class 1
Primary Residential Class 2
Secondary Industrial
Secondary Residential
Service Drive
M
CITY OF ROCKVILLE
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND TRANSPORTATION DIVISION

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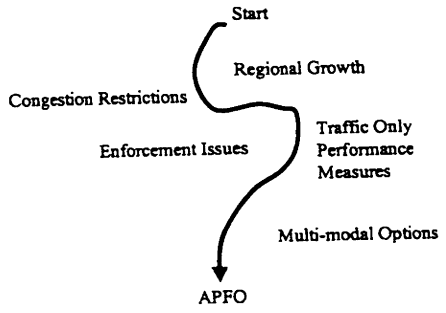

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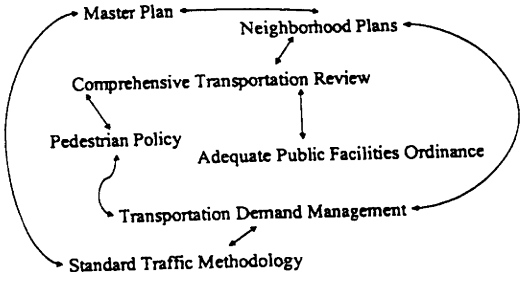

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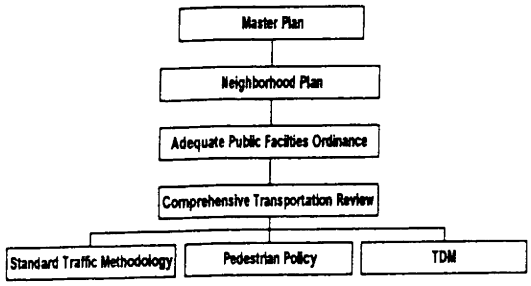

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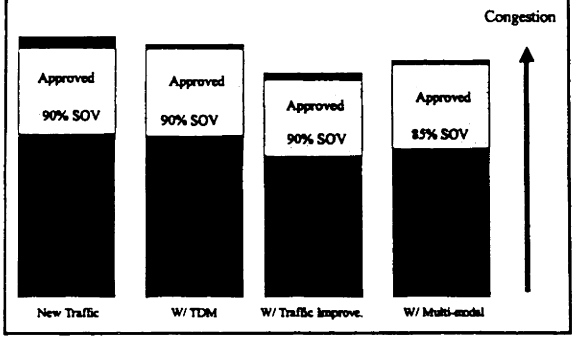

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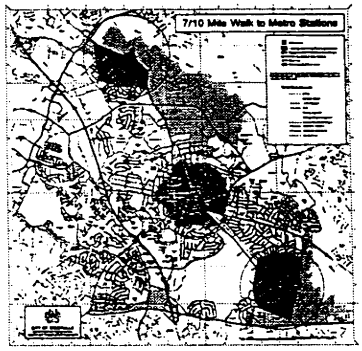

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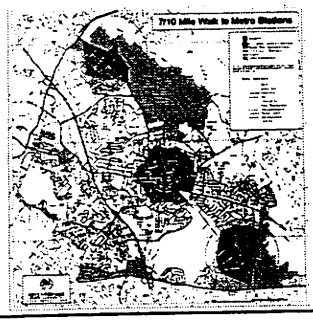

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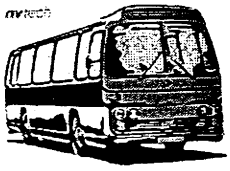

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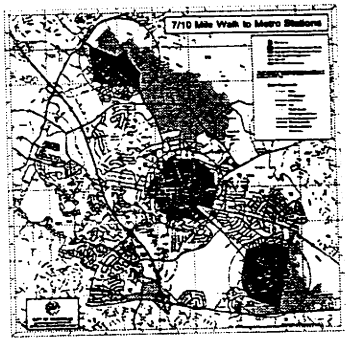

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- Credit for Multi-Modal Traffic Improvements
- Time Limit on Approved Applications

Adequate Public Facilities

What is it?

Adequate public facility standards may be the appropriate solution if your local government is having difficulty in providing public facilities rapidly enough to keep up with the demands of new development. These standards, also known as concurrency requirements, are designed to control the timing and location of new development by coordinating local development permits with the availability of public facilities to serve the development. To use this approach, your local governments must first establish level of service standards (e.g., classroom space per student, maximum daily traffic volume on roadways) for public facilities that are typically impacted by new development, such as roads, water supply, wastewater treatment, and schools. Each new development proposal is then evaluated for its likely impact upon these established service levels. Developments which would lower levels of service below established standards may be:

- Denied a permit;
- Approved only if the developer agrees to provide the facilities needed to maintain established service levels; or
- Approved only if the developer agrees to redesign the project to reduce its impact on service levels.

How to do it

1. **Identify services to be covered by the standards**. It is best to choose those services which are typically most impacted by new development. These are likely to include roads, water supply, wastewater treatment, and schools.

2. **Involve key stakeholders.** Decide which groups or individuals in your community are most likely to be affected by (or might oppose) adoption of adequate public facility standards and invite them to participate in the process of developing the program. It is particularly important to seek the involvement and cooperation of any separate agencies or authorities that provide critical public facilities and services within your jurisdiction. Decide which local, regional, or state agencies might eventually build public facilities in your community. Don't forget the school board, development authorities, or agencies that provide local water and sewer service (if separate from your local government). Identify the individuals who make facility location decisions for these agencies and establish regular opportunities to meet with these key decision-makers. An effective approach would be to appoint an advisory committee of these key stakeholders to guide development and ongoing implementation of the standards.

3. **Establish desired development patterns.** Review the future land use section of your community's comprehensive plan to identify the development patterns (types and locations of development) that your community is seeking to achieve. Also review the plan to identify land areas that should be set aside from development in order to protect critical environmental resources such as scenic areas, historic properties, or prime agricultural lands. If you feel that the comprehensive plan does not provide enough guidance on future development patterns, you may want to utilize a community involvement process and amend the plan to reflect preferred development patterns.

4. **Identify service areas.** Service areas are districts where a uniform level of service (e.g., classroom space per student, maximum daily traffic volume on roadways) will be required. The community's desired development patterns should be carefully considered in drawing service area boundaries. For instance, areas where new development is not desired (floodplains, scenic areas, etc.) should be drawn as separate service areas. For some services, such as water supply and wastewater treatment, engineering principles (water can't flow uphill) will play a critical role in drawing service area boundaries.

5. **Determine level of service standards.** For each service type and service area, document existing service levels and consider whether these levels are adequate. Establish level of service standards based on adequacy of existing service and careful consideration of the community's desired development patterns. Establishing higher standards will discourage new development in particular service areas, but these higher standards must be justified by adopting supporting policies in the local comprehensive plan in order to protect your community from litigation on equity issues. The chart below lists some common ways of measuring level of service for a variety of public services.

Example Measures of Level of Service

Facility	*Measure*
Roadways	Volume of traffic versus maximum capacity of roadway (based on number of traffic lanes and other standards)
Schools	Square feet of school building space per student
Water Supply	Average gallons of treated water produced per day
Wastewater Treatment	Gallons of sewage treated per day

Parks	Acres of parkland per capita
Fire	Average response time
Police	Number of officers per capita
Libraries	Square feet of library space per capita
Emergency Medical Services	Average response time

6. **Institute a Capital Improvement Program (CIP).** A CIP (refer to GQGP quality growth tool: Capital Improvement Program) is necessary for effective implementation of adequate public facility standards. By laying out your community's plan for future facility expansions, the CIP tells developers where to locate new development so that it will be successful in meeting the level of service standards. Without an associated CIP, developers could challenge your adequate public facility standards as arbitrarily blocking new development (i.e., with no assurance that new public facilities will be built, it would be impossible for new developments to meet the level of service standards).

7. **Adopt the adequate public facility standards.** Adequate public facility standards can be incorporated in your existing development regulations, but many communities choose to adopt separate adequate public facility ordinances. These ordinances include administrative requirements for submittal and review of development proposals and specify an appeal process for situations where staff and developers disagree over project impacts.

8. **Periodically re-evaluate the standards.** The level of service standards will need to be re-evaluated regularly to balance the rate of new development against your local government's ability to provide new public facilities. If standards are set too low, new development will continue to tax the local government's ability to keep up in providing supporting public facilities. On the other hand, standards that are too high will slow development to the point where the local government finds itself with no users for newly built facilities. It is also possible that your process for calculating the impacts of new development will need to be adjusted. If actual levels of service are dropping, this may be the result of approving new developments that are impacting service more than was calculated.

Things to consider before using this tool

- Consult your local attorney about use of this approach. Adequate public facility standards are not specifically authorized in Georgia Law, and the Georgia Supreme Court has been known to overturn local zoning decisions denying development permits based solely on inadequate public facilities. At minimum, you should bolster legal defensibility by including strong policy statements supporting use of the standards in your local comprehensive plan. If your local government is sued, Georgia courts are more likely to uphold regulations that can be shown to implement community objectives detailed in the officially adopted local comprehensive plan. It is also important to check that your designated service areas do not conflict with service areas agreed to in the county service delivery strategy.

- Seek guidance from cities or counties that have previously implemented adequate public facility standards before establishing a local program. This may help you avoid common pitfalls with implementation of these standards, which include:
  1. Opening your local government to lawsuits for arbitrary rejection of development proposals based on weak level of service standards.

  2. Inadequate review of development proposals. Implementation of adequate public facilities standards requires a high level of staff resources and expertise, since the impacts of every new development proposal must be evaluated against the community's level of service standards. This evaluation takes considerable time that must be factored into your normal development review process.

- Although the Georgia Development Impact Fee Act (refer to the 'Other Resources' section of GQGP quality growth tool: Adequate Public Facilities) is primarily intended to provide a guide for the establishment of an impact fee program, its standards and requirements for establishment of service areas, levels of service requirements, and facility improvement plans should be used as guidelines for the design and implementation of adequate public facility standards in Georgia.

- Be sure to update your land use regulations to accommodate the new infill development that will result from implementation of adequate public facility standards. If land use codes are not adjusted to permit greater densities and mix of uses, your regulations will be working at cross-purposes and will not be effective in guiding local development patterns as desired.

- By restricting the amount of new development that is permitted, adequate public facility standards are likely to increase the cost of new housing and other developments, since supply may not be able to keep up with market demand. The development restrictions are also likely to put your community

at a disadvantage in attracting new development, which may choose to locate in neighboring cities or counties that are not imposing adequate public facility standards.

Additional Information on Using Public Facilities to Manage Growth

Background

- Does your community frequently find itself playing catch-up in providing public facilities and infrastructure to areas where new development is occurring?

- Are the costs of providing new public services for new developments causing a strain on public coffers?

- Is new development taking place in areas that your community would have preferred to see develop at a later time, or perhaps not at all -- such as environmentally sensitive areas or important farming areas?

If your community is like the typical Georgia city or county, development is taking place with little local government control of the timing, location and scale of these new developments. There are good reasons why this situation is not desirable:

- With limited predictability to when or where the next development will take place, the local government will have difficulty planning for the future development of the community or effectively managing development-related environmental impacts. This can lead to the kind of unplanned development known as "urban sprawl."

- Studies have shown that it is more expensive to provide public facilities and services to developments that have sprung up in a haphazard, or leap-frog manner. Your local government can save money by gradually expanding service from existing service areas in a rational and well-planned manner.

- As long as the local government is in a position of reacting to new developments, it is difficult to anticipate and budget for the costs of providing needed new public facilities.

The comprehensive public facility management approaches described herein are designed to put your local government in a position to guide rather than react to the location of new development. Even if your community is not facing intense growth pressures, you may find some of these approaches useful for attracting the growth the community desires.

PART II: PUBLIC FACILITIES AND INFRASTRUCTURE

SECTION 4: ADEQUATE PUBLIC FACILITIES (APF) AND CONCURRENCY

4.01 PURPOSE AND KEY TERMS

Adequate Public Facilities (APF) systems, also known as **concurrency management** systems, tie or condition development approvals to the availability and adequacy of public facilities. Public facilities typically made subject to APF requirements based on adopted **level of service (LOS)** standards are those relating to roads, sewer systems, schools, water supply and distribution systems, and fire protection.[32]

The reason a local government adopts an APF ordinance is to ensure that before new development occurs its public facilities will have sufficient available capacity to serve the development at a predetermined acceptable level of service.[33] This technique is intended to guarantee that public facilities are either in place already or that they will be provided as impacts occur from new development. In that way, a county or municipality can be assured that new development will not place excessive additional loads on existing infrastructure until necessary capacity has been added to that infrastructure.[34] Unlike impact fees and in-kind exaction requirements, APF programs do not require that developers pay for public improvements, but only that such improvements be made before or when development occurs. As a practical matter, though, in those instances where public funds are not available, growth may occur only if the developer pays for needed public facility improvements.[35]

APF is related to, but different from, **growth phasing** and **rate-of-growth** programs. All three techniques attempt to balance the timing and amount of development with the ability or willingness of a community to accommodate it. Growth phasing systems limit the total amount of new development that can be approved over the course of a year or other definite period of time, in an attempt to address some of the shortcomings of performance-based APF systems. Rate-of-growth systems have annual development caps similar to growth phasing systems, but are less closely linked to public facility constraints, and instead are typically adopted based on locally desired rates of growth rather than on an analysis of facility availability.[36] Growth phasing and rate-of-growth programs are discussed in Section 3.

APF requirements include two main components: (1) an identification of the types of public facilities and related levels of service that are needed to permit new developments; and, (2) a clear policy about when the public facilities must be in place relative to the impact of development.[37] Implementation of these requirements requires an ordinance and a map that together spell out the required existing or planned

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[32] Michael Davidson and Faye Dolnick, eds., *A Glossary of Zoning, Development, and Planning Terms*, Planning Advisory Service Report Nos. 491/492 at 28 (American Planning Association 1999).

[33] American Planning Association, *Local Land Development Regulation*, Draft of Chapter 8 in *Growing Smart™ Legislative Guidebook* (APA, March 2, 2000) at page 8-157.

[34] National Association of Industrial and Office Properties National Growth Management Task Force, *Growing to Greatness: A Growth Management Manual* (NAIOP, 2000) at 25.

[35] Colorado Department of Local Affairs, *Colorado Growth Management Toolbox: Appendix to Smart Growth and Development Summit White Paper* (Prepared by Clarion Associates, January 1995) (http://www.dlg.oem2.state.co.us/fs/toolpref.htm).

[36] James Duncan and Associates and Eric Damian Kelly, *Adequate Public Facilities Study: An Analysis of APF/Growth Management Systems*, Prepared for the Montgomery County Planning Department and the Maryland-National Park and Planning Commission (November 1991).

[37] Oregon Transportation and Growth Management Program, "Adequate Public Facilities Requirements," Chapter in *TGM Tools of the Trade* (ODOT/DLCD Transportation and Growth Management Program, 1995) (http://www.lcd.state.or.us/issues/tgmweb/pub/tools.html).

levels of service; coordination among planning agencies and service providers; a system designed to measure and monitor the levels of public services; and a permit process.[38]

4.02 EFFECTIVENESS IN ACHIEVING STATED PURPOSE(S)

To date, those communities that have applied APF or concurrency are mostly located in Florida, Maryland, California and Washington; a few communities in Colorado are investigating the use of the technique.[39] Concurrency management has had the longest tenure in Florida. In January 1999, the Florida Transportation and Land Use Study Committee issued a report in which it identified "major shortcomings" with that state's implementation of this technique because of its focus on transportation capacity. These shortcomings include:

- The methods used to establish and measure levels of service are focused on automobile mobility, to the exclusion of other modes of travel;
- When development cannot occur due to roadway deficiencies, property owners who cannot develop may seek reductions in their tax assessments. As a consequence, the community's property tax base may be compromised;
- The system can cause uncertainty for local governments in those cases where developers and their financiers become reluctant to undertake projects that would benefit the community but might not enable the community to meet its stated transportation requirements; and
- Transportation concurrency must be based on realistic and financially feasible capital improvement programs, but in some cases these programs do not maintain their feasibility over time.[40]

The Florida report does not draw express conclusions about the effectiveness of the concurrency program because its investigation was largely based on anecdotal evidence. Rather, it makes specific recommendations to the legislature for amendments to the state concurrency program statutes and rules.

In 1991, the Montgomery County (Maryland) Planning Department and the Maryland-National Park and Planning Commission studied the effectiveness of the Montgomery County APF system in comparison to other APF systems around the country. After studying seven of these systems, located in Colorado, California and Florida, the study concluded that the concurrency management system in Broward County, Florida, is the best example of a "pure" APF approach. The Broward County concurrency management system is virtually self-administering, and focuses exclusively on traffic. It uses the system to maintain all roadway links in an arterial system at a uniform level of service, county wide. The study observed that, despite the fact that Broward County's concurrency provisions were fairly new in 1991, the traffic model that formed the basis of this system had been in place for twelve years. The study concluded that during that time period, many of the problems with the system had been worked out and it had become accepted by the development community.[41]

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[38] *Id.*

[39] *Colorado Growth Management Toolbox.*

[40] Florida Transportation and Land Use Study Committee, "Get Concurrency Right," Chapter 2 in *Final Report of the Florida Transportation and Land Use Study Committee* (Tallahassee, Florida: January 15, 1999) (http://www.dot.state.fl.us/planning/land_use/final.htm). *See also* Ivonne Audirac, William O'Dell and Ann Shermyen, *Concurrency Management Systems in Florida, BEBR Monographs*, Issue No. 7 (Gainesville, Florida: University of Florida, Bureau of Economic and Business Research, March 1992).

[41] *Adequate Public Facilities Study* at 9.

4.03 IMPACT ON PROPERTY VALUES

Since it controls the pace and location of development based on the availability of public facilities, APF regulations could have the effect of increasing property values in those areas where facilities are in place or designed to be in place in the near future.[42] Conversely, one would expect property values to decline with the adoption of an APF system, all else being equal, in those areas where no facilities are scheduled to be provided in the near future.

4.04 IMPACT ON DEVELOPMENT COSTS

APF would not be likely to impact "hard" development costs such as material and labor, except to the extent that a developer provides the facilities required under the APF system as a way to accelerate its ability to develop its property. However, because it delays development in areas lacking the necessary public facilities, APF would be expected to have a negative impact on "soft" development costs, specifically carrying costs in those areas. APF systems tend to be complex and involve additional permitting. Complexity and additional permitting programs will raise the cost of compliance for developers.

4.05 IMPACT ON AMOUNT AND PATTERNS OF LAND DEVELOPMENT

Because the purpose of APF is to affect the amount and location of land available for development based on the availability of the necessary infrastructure, it directly impacts the amount and patterns of development. APF can also affect the allowable density of development.

4.06 IMPACT ON HOUSING AFFORDABILITY

Depending on how such a system is implemented, housing costs may be affected by development delays resulting from the APF system. If infrastructure development does not allow housing development to keep pace with demand, housing prices may be driven higher by supply shortages—scarcity of buildable sites. Furthermore, direct costs of the APF system on developers and builders either will be passed on to homebuyers, thereby raising housing costs, or absorbed by builders and developers as lower profits, potentially leading to a scarcity of housing supply. For example, if a builder has to wait for several months or years more than it had anticipated in order to construct its development, its carrying costs would be greater and, depending on the market, these costs may help to drive up new house prices. Alternatively, if APF compliance reduces anticipated profits to less than an acceptable minimum, builders will not build and the result will be lessened supply and growing scarcity. Scarcity will tend to result in increases in prices making housing less affordable.

[42] See A. C. Nelson, J. E. Frank and J. C. Nicholas, "Positive Insulence of Impact-Fees in Urban Planning and Development," *Journal of Urban Planning and Development*, Vol. 118, No. 2 (1993) the authors found just such a price elevation.

4.07 SUMMARY OF PROS AND CONS

PROS:

- An APF ordinance allows control over the timing of development and clarifies the local government's role in providing public infrastructure.[43]

- An APF ordinance can help direct growth to suitable areas where there is a capacity for growth and thereby contribute to the fiscal stability of the government as well as support the revitalization of urban areas where existing facilities have the ability to absorb growth.[44]

- APF policy can act to prevent leapfrog development patterns and the concomitant costs of infrastructure extensions in this type of pattern.[45]

CONS:

- APF can be used as a no-growth measure when "acceptable" levels of adequacy are set above current levels, which works to automatically put a brake on future development until the condition is improved.[46]

- APF works best with a volume of development that far exceeds the ability of the local government to keep up with the demand for public facilities; otherwise the complexity and administrative costs of enacting and maintaining such a program are not justifiable.[47]

- An APF system creates a certain amount of bias in favor of larger projects that are more able to marshal resources and control development timing.[48]

4.08 INCENTIVE-BASED ALTERNATIVES

There are alternatives to an APF system that will allow development to proceed in accordance with market conditions, while addressing the government's concern that necessary facilities are available for that development. These alternatives are "market based" to the extent that they provide the ability for the developer to determine whether the market warrants private investment in the necessary infrastructure or whether it is preferable to wait for public investment to occur.

For example, if state law enables local government to allow private sector control over infrastructure development, a **Special Assessment District (SAD)** may be a viable alternative to APF. Special Assessment Districts are discussed in Section 6. In a Special Assessment District the landowners within the district decide how infrastructure needed for development is to be financed and constructed.

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[43] American Planning Association at 8-157.
[44] Maryland Office of Planning, *Managing Maryland's Growth: Models and Guidelines -- Adequate Public Facilities* (1996).
[45] *Colorado Growth Management Toolbox.*
[46] American Planning Association at page 8-157, citing Porter, Douglas R., *Managing Growth in America's Communities* (Washington, D.C.: Island Press, 1997) at 130.
[47] Maryland Office of Planning.
[48] *Colorado Growth Management Toolbox.*

Another alternative is for the local government to allow developers to actually construct the needed infrastructure in those cases where the government has not scheduled the public facility improvements needed for development to proceed, and to recover the expenditures that are made in excess of their proportionate share, through a reimbursement or "recapture" agreement with other property owners whose subsequent developments will benefit from the improvements. This is a practical approach only where the return on the investment in the infrastructure makes financial sense for the developer.

SECTION 5: IMPACT FEES

5.01 PURPOSE AND KEY TERMS

A **development impact fee** is a form of **exaction** that is assessed by local government upon new development in order to cover the capital cost of primarily off-site infrastructure (capital facilities) necessary to serve the new development. Simply put, "exactions" or "developer exactions" are conditions to development approval. Exactions may take the form of mandatory dedications of land for roads, schools, or parks as a condition to plat approval, fees in lieu of mandatory dedication, water or sewer connection fees, and development impact fees.

Impact fees were conceived as a mechanism to offset the cost of growth resulting from the need for large-scale public improvements located off-site of new developments. These fees were also intended to address the developer's need for more predictable development costs as compared to negotiated developer contributions. An impact fee is a type of exaction that is:

1. in the form of a predetermined money payment;
2. imposed as a condition to building permit issuance;
3. pursuant to local government powers to regulate new growth and development and provide for adequate public facilities and services;
4. levied to fund large-scale, off-site public facilities and services necessary to serve new development;
5. in an amount that bears some reasonable proportion to the need for the public facilities generated by new development.[49]

In other words, impact fees are designed to require that each development pay its proportionate share of the cost of providing off-site public services and facilities generated by new development. The purpose of an impact fee is to have those persons who benefit from specific new developments pay their proportionate share of the costs associated with those developments.[50]

The rationale for impact fees is that the proponent of new development should incur the cost of capital improvements needed to serve the new development, rather than having the cost paid by the public at large through taxes, or assumed by the users of the service through user fees. Impact fees may only be used to pay for the provision of new facilities and the expansion of existing facilities that are made necessary by the development project. These may include roads, schools, parks and recreation facilities, sewer (storm and sanitary) and water utilities, solid waste, fire/EMS, police and library services. Some impact fee systems allow local government to recoup a portion of the capital costs of previously built systems having excess capacity that will be devoted to the new development.[51] But impact fees may not be used to pay for the maintenance of existing facilities or to cover operating expenses.[52] A properly designed impact fee system fairly accounts for the infrastructure costs incurred by the local government to serve a new development, and shifts all or a proportionate amount of those costs to that new development. Payment of impact fees may be required at the time of development approval, at the building permit stage

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[49] Blaesser and Kentopp, "Impact Fees: The Second Generation," 38 *Journal of Urban and Contemporary Law* 401 (1990).
[50] Bauman, Gus and William H. Ethier, "Development Exactions and Impact Fees: A Survey of American Practices," 50 *Law and Contemporary Problems* 51, 62 (1987).
[51] Nelson, Arthur C. and James B. Duncan, *Growth Management Principles & Practices* (APA, 1995) at 123.
[52] American Planning Association, "Local Land Development Regulation," Draft of Chapter 8 in *Growing Smart™ Legislative Guidebook* (APA: March 2, 2000) at 8-132.

or upon issuance of the certificate of occupancy. The timing of the required payment can have a significant impact on the financial feasibility of a development.

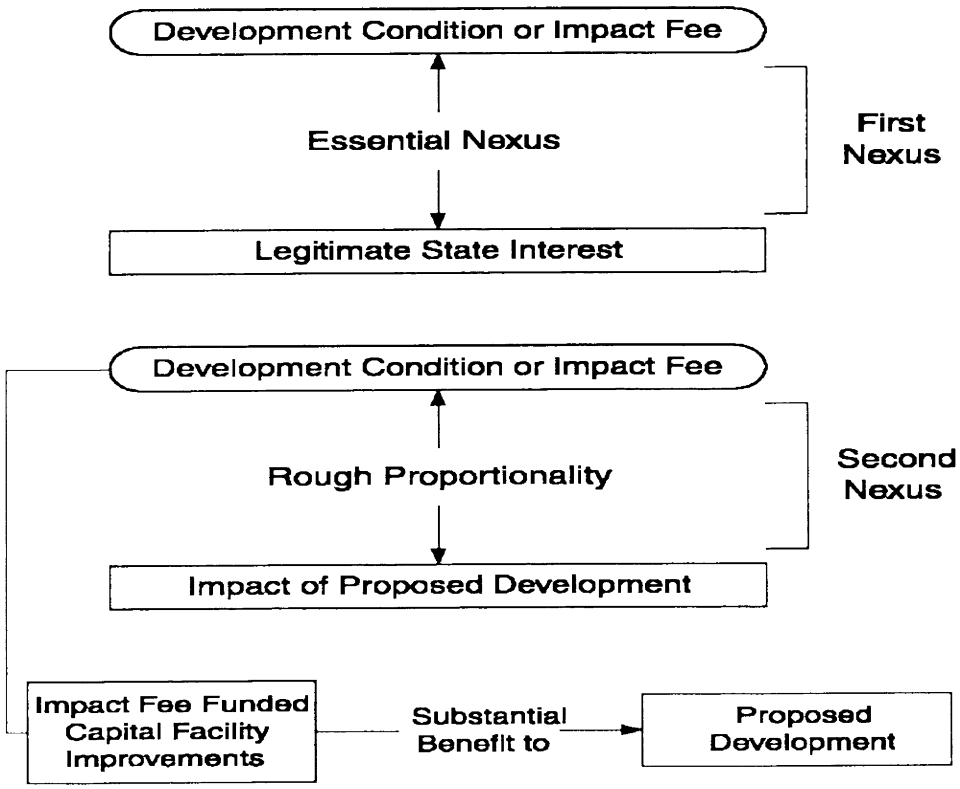
As a result of the U.S. Supreme Court's decisions in the *Nollan* and the *Dolan* cases,[53] there has developed a constitutional test for exactions frequently referred to as the *Dual Nexus Test*. But litigation over impact fees generated its own constitutional test long before these two cases shaped American land use and takings jurisprudence. Much of the impact fee litigation was in the state of Florida, and resulted in what is called the *Dual Rational Nexus Test*. There are two prongs to this test. The first prong requires that there be an identified "nexus" (connection) between the new development and the need for the improvements for which a fee is imposed. In order to satisfy the first prong, the nexus must be substantial, rationally linked and direct between the new development and the identified need for the improvements. The second prong requires that the development that has been assessed the cost (fee) must receive a substantial benefit from the improvements constructed with a fee. This is the constitutional test followed in the majority of the states in which impact fees are legally authorized. The Supreme Court's decision in the *Nollan* case reinforced the use of the Dual Rational Nexus Test by state courts in assessing the validity of impact fee programs.

As illustrated in the diagram on the following page, the Supreme Court said in *Nollan* that a development condition or impact fee must have an essential nexus to some legitimate governmental purpose in order to satisfy the first prong or first nexus. If that stated purpose is not really a legitimate objective based on a court's review of the objective as stated, then the Supreme Court has said that lack of a substantial relationship between the exaction and a legitimate state interest may constitute a taking of property.

The second prong, or the second nexus, as illustrated in the diagram, is that there must be a "rough proportionality" between the exaction or impact fee and the impact of, or need created by, the proposed development. As that second prong was articulated in the Supreme Court's decision in the *Dolan* case, it means that local government, not the developer, has the burden of substantiating the purpose and the amount of the impact fee. The connection between development impact and fee amount need not be mathematically precise. But a court must be able to determine whether there is a methodology and if that methodology supports the condition imposed upon the development. (*See Diagram*)

[53] *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); *Dolan v. City of Tigard*, 512 U.S. 374, (1994).

The *Nollan/Dolan* Dual Nexus Test



As indicated at the bottom of the diagram, the capital facility improvements funded with the impact fee must substantially benefit the proposed development. This concept has always been embedded in modern impact fee systems and is consistent with the impact fee case law as it developed at the state level before *Nollan* now called the rough proportionality test. In other words, it is not enough to demonstrate some connection between a fee and the kind of need that this development is creating. It is also necessary to show that the fee payer, the developer, will receive the benefit of that improvement. The discipline of making sure that the feepayer actually receives the benefit of the fee is critically important in an impact fee program. This is typically done by establishing zones and requiring that fees paid for development within a zone are spent for improvements in the same zone.

5.02 Effectiveness in Achieving Stated Purpose(s)

As applied in some jurisdictions, impact fees have been seen as a "pro-growth tool because of their ability to defuse rising no-growth sentiments, ensure facility adequacy, and facilitate development approval."[54] Impact fees can add speed and predictability to the development process, are more equitable than a negotiated exaction or "proffer" process, and are considered likely to generate more revenue.[55] Impact fees are seen as more equitable than other means of financing infrastructure improvements, because they

[54] Nelson and Duncan at 123.
[55] *Id.*

impose the financial burden of a particular development on those who benefit from it the most. Impact fees are also considered to be politically more acceptable in many jurisdictions.[56] An impact fee system only works to internalize the costs of development if the impact fee is less than or roughly equal to the public expense it is supposed to cover. If an impact fee is set too high, it is not a tool to recover costs, but can be an instrument to exclude development.[57]

Historically, impact fee and other types of exactions have been prevalent in high growth states like California and Florida that are burdened with highly restricted tax systems. However they are increasingly being applied in other growth areas of the country. In part, this is because they are perceived to be more politically acceptable than other potential revenue sources.

5.03 IMPACT ON PROPERTY VALUES

The effect impact fees have on property values will depend on the nature and extent of the local impact fee system and the particular nature of the local market for land. In general, the imposition of impact fees may decrease the price a developer would otherwise be willing to pay for raw land in an area subject to the impact fee, because the impact fee will increase the cost of development. This would have the effect of shifting the impact fee back to the landowner. Conversely, imposing impact fees in some areas may make land in other areas not subject to the fee more attractive for development and hence more valuable. This would have the effect of creating land scarcity in the impact fee area until prices rose in those areas to restore relative price and cost equilibrium between impact fee and non-impact fee areas.

5.04 IMPACT ON DEVELOPMENT COSTS

Various studies have examined the effect of impact fees on development and other costs in Illinois,[58] California,[59] and Texas.[60] These studies conclude that impact fees increase the cost of housing, primarily because they result in higher development costs. Developers, in turn, attempt to pass the higher costs along to the ultimate homebuyer. Based on these studies, one should expect land development costs to rise in those jurisdictions in which impact fees are imposed, even where they are imposed fairly and consistently.

Another relevant factor is who ultimately bears the increase in development costs. In jurisdictions that are growing and are desirable places to live, any increase in development costs can be more easily passed on to consumers. Growth and desirability will tend to introduce a degree of inelasticity in the demand for housing, especially new construction, and this inelasticity allows costs to be shifted forward to consumers. If the impact fees are imposed in distressed, non-growing or less desirable areas, however, there is greater risk that builders and developer will not be able to recover their increased costs and will have to absorb the fees.[61] The lack of growth and desirability introduce a degree of elasticity to demand with the result that price increases are difficult, if not impossible, to impose. In these situations builders and developers will have to absorb any fees as lower profits.

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[56] National Association of Industrial and Office Properties National Growth Management Task Force, *Growing to Greatness: A Growth Management Manual* at 111 (NAIOP, 2000).
[57] American Planning Association at 8-132 to 8-133.
[58] Baden, Bret M., Don L. Coursey, and Jeannine M. Kannegiesser, *Effects of Impact Fees on the Suburban Chicago Housing Market*, Heartland Institute Policy Study No. 93 (November 19, 1999).
[59] Dresch, Maria and Steven M. Sheffrin, *Who Pays for Development Fees and Exactions?* (Public Policy Institute of America, 1997).
[60] Dotzour, Mark, *Fiscal Impact Studies: Does Growth Pay For Itself?* on the National Association of Home Builders webpage: (http://www.nahb.net/growth_issues/fiscal_impact/growth_pays.html).
[61] Dresch at 75.